

REMARKS

Claims 1, 3, 5, 7-13 and 16 have been amended. Claims 17-21 have been added. Support for the amended and new claims is provided throughout the specification and drawings. No new matter has been introduced. Twenty-one (21) claims are pending and remain for consideration. Favorable reconsideration of the pending claims and further examination of the application is respectfully requested.

Amendments Correcting Informalities

Claims 5, 7, 8-10, 13 and 16 have been amended, without prejudice or disclaimer, to correct minor typographical errors and obvious omissions. The amendments are not made to overcome prior art rejections and do not present new issues for consideration.

35 U.S.C. § 102(e)

Claims 1-5, 7-13 and 16 are rejected under 35 U.S.C. § 35 U.S.C. §102(e), as anticipated by U.S. Patent Publication No. 2003/0226698, to Kamen, on December 11, 2003. This rejection is respectfully traversed.

In order for a claim to be anticipated under 35 U.S.C. §102, each and every element, as set forth in the claim, must be found, either expressly or inherently, in a single prior art reference (*Verdegaal Bros. v Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987)); the identical invention must be shown in as complete detail as is contained in the claim (*Richardson v Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989)); and the elements must be arranged as required by the claim (*In re Bond*, 15 USPQ2d 1566 (Fed. Cir. 1990)).

Claim 1 is directed to a wheelchair comprising one or more devices sensing an angle of a surface on which the wheelchair is supported. A controller receives input from the one or more devices. The input corresponds to an angle of a surface on which the wheelchair is supported. At least one of either a control algorithm or a look up table is used by the controller to control drive parameters of the wheelchair

according to the input from the one or more devices to prevent an unstable condition from occurring.

Kamen fails to disclose a controller that controls drive parameters to prevent an unstable condition from occurring, as set forth in claim 1. Instead, Kamen discloses the correction of an unstable condition (i.e., movement in forward and backwards directions in an attempt to compensate for an inclination change detected by a pitch sensor). Since Kamen fails to disclose the invention of claim 1, claim 1 is not anticipated by Kamen. Consequently, claim 1 should be allowable as amended.

If an independent claim is allowable, then any claim depending therefrom is allowable. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988).

Claims 2-5 and 17-18 depend from claim 1 and should be allowable for at least the same reasons as claim 1, as set forth above. In addition, claim 3 has been amended to require inclinometers that are mounted in perpendicular planes, and also to require an inclinometer that measures the roll angle of a wheelchair. Kamen fails to disclose these features. Consequently, claim 3 should be allowable over Kamen in its own right.

Claim 7, since originally presented, has recited a controller that prevents a wheelchair from changing to a less stable configuration. Kamen fails to disclose a wheelchair having a configuration that can be changed. Also, Kamen fails to disclose a wheelchair with a controller that prevents the wheelchair from being changed to a less stable configuration when the controller senses input from an input device indicating that the wheelchair is on a support surface having a sufficient incline. In absence of such disclosure, claim 7 should be allowable.

Claims 8-10 depend from claim 7 and should be allowable for at least the same reasons as claim 7, as set forth above. In addition, claim 8 particularly points out that the controller prevents the wheelchair from changing from a configuration supporting a wheelchair occupant in a seated position to a configuration supporting a wheelchair occupant in a reclined, tilted, lifted or standing position. Kamen fails to disclose this feature. Consequently, claim 8 should be allowable over Kamen in its own right.

Claim 11 recites a wheelchair having a controller that controls drive parameters of one or more drive motors according to input data from one or more sensing devices and input data from the one or more drive motors, wherein the drive parameters include one or more of wheelchair acceleration, deceleration, turning acceleration or deceleration, velocity, or turning radius to insure dynamic stability of the wheelchair.

Kamen fails to disclose a controller that controls drive parameters to insure dynamic stability of a wheelchair. Instead, Kamen discloses the correction of an unstable condition (i.e., movement in forward and backwards directions in an attempt to compensate for an inclination change detected by a pitch sensor). Since Kamen fails to disclose the invention of claim 11, claim 11 is not anticipated by Kamen.

Claims 12, 13 and 16 depend from claim 11 and should be allowable for at least the same reasons as claim 11. In addition, claims 12 and 13 should be allowable in their own right for at least the same reasons as set forth above concerning claims 7 and 8. In addition, claim 16 recites one or more steering motors, in addition to the one or more drive motors recited in claim 11, from which claim 16 depends. Kamen fails to disclose a steering motor, as recited in claim 16, but instead recites only drive motors. Consequently, claim 16 should be allowable in its own right.

35 U.S.C. § 103

Claims 6, 14 and 15 are rejected under 35 U.S.C. § 103, as being unpatentable over Kamen in view of U.S. Patent No. 6,409,265, issued to Koerlin. This rejection is respectfully traversed.

Claims 6, 14 and 15 depend from claims 1 and 11. Kamen fails to cure the deficiencies in claims 1 and 11 set forth above.

In addition, claim 6 requires the drive parameters controlled by the controller to include one or more of maximum wheelchair acceleration, maximum wheelchair deceleration, maximum turning acceleration or deceleration, maximum velocity, or minimum turning radius.

The Examiner asserts that, while Kamen does not specify "maximum" wheelchair acceleration, deceleration, it would have been obvious to one having ordinary skill in the art at the time the invention was made that a gear would not supersede "maximum" knowing the probability that pedestrian injury and damage to the driving mechanism will occur. Applicants respectfully submit that a gear is not a drive parameter controlled by a controller, as set forth in claim 6. In the absence of some teaching of drive parameters controlled by a controller, as set forth in claim 6, alone or in combination with other features of the invention, as set forth in claim 1, from which claim 6 depends, claim 6 should be allowable over the cited references.

Claim 14 requires the controller to receive input data from an articulating seat, wherein the input data corresponds to the position of the seat. The controller controls the articulating seat according to the combination of input data recited in claim 11 and the input data from the articulating seat.

Claim 15 further requires the articulating seat to have a recline actuator decoder and the input data from an articulating seat to be sensed by the controller from the recline actuator decoder.

The Examiner asserts that Koerlin discloses a wheelchair comprising an articulating seat and a controller receiving input data from the articulating seat corresponding to the position of the seat and further controlling the articulating seat according to the combination of input data and the input data from the articulating seat. The Examiner also asserts that the articulating seat disclosed by Koerlin has a recline actuator decoder from which the input data is sensed by a controller.

Neither Kamen nor Koerlin teaches or suggests the claimed invention. In the absence of some teaching or suggestion to make the claimed invention, the Examiner has not met the three basic criteria for establishing a prima facie case of obviousness. In this regard, claims 14 and 15 should be allowable over Kamen and Koerlin in their own right.

New Claims

Claims 17 and 18 depend from claims 1 and 3 and should be allowable for at least the same reasons as claims 1 and 3, as set forth above. In addition, claim 17 requires an inclinometer that is oriented to measure from a negative forward pitch angle through zero degrees to a positive forward pitch angle and also requires another inclinometer that is oriented to measure from a negative roll angle through zero degrees to a positive roll angle. Claim 18 recites a first elevated dynamic performance level in which the wheelchair can operate when the angle of the supporting surface is below a maximum incline and a second reduced dynamic performance level when the angle of the supporting surface exceeds the maximum incline, wherein the controller defaults to the second reduced dynamic performance level unless the inclinometers indicate that the angle of the surface is below the maximum incline. Kamen fails to disclose these features. Consequently, claims 17 and 18 should be allowable over Kamen in their own right.

Claim 19 recites a controller that controls drive parameters of a wheelchair according to input from one or more devices so that the wheelchair can be operated at a first elevated dynamic performance level when the angle of a supporting surface is below a maximum incline and a second reduced dynamic performance level when the angle of the surface exceeds the maximum incline. Kamen fails to disclose a wheelchair that can be operated at different performance levels dictated by the incline of the surface supporting the wheelchair, as recited in claim 19. Consequently, claim 19 should be allowable as presented.

Claim 20 depends on claim 19 and should be allowable for at least the same reason as claim 19, as set forth above. In addition, claim 20 defines the maximum incline to be in a range of about 9 degrees and about 14 degrees. Kamen fails to disclose this feature as well. Consequently, claim 20 should be allowable in its own right.

Claim 21 recites a controller that controls drive parameters of the wheelchair according to the input from the one or more devices to alter dynamic drive

characteristics of the wheelchair according to the steepness and direction of the angle of a supporting surface. Kamen fails to disclose this feature. Consequently, claim 21 should be allowable.

Conclusion

In view of the amendments and above remarks, it is believed that the application is in condition for allowance. Accordingly, a Notice of Allowance is respectfully requested.

Request for Telephone Interview

As a final matter, if the Examiner has any suggestions concerning different claim phraseology that, in the opinion of the Examiner, more accurately defines the present invention, prior to issuance of another Office Action, Applicants' undersigned attorney requests the courtesy of a telephone interview at the Examiner's earliest convenience to discuss the application. Applicants' undersigned attorney may be contacted at (419) 255-5900.

Respectfully submitted,

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